

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015495**Date Inspected:** 08-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

- 1). OBG Field Splice 1W/2W Weld ID: D1 & D2 Face B
- 2). OBG Field Splice 1W/2W Weld ID: F Face A
- 3). OBG Field Splice 2W/3W Weld ID: D1 & D2 Face B
- 4). OBG Field Splice 2W/3W Weld ID: B Face A
- 5). OBG Field Splice 3E/4E Weld ID: D1 & D2 Face B
- 6). OBG Field Splice 3W/4W Weld ID: C1 & C2 Face B

- 1). OBG Field Splice 1W/2W Welds D1 & D2, Face B

The QAI periodically observed the in process welding of OBG Field Splice 1W/2W weld ID: D1 & D2, Face B per the Flux Cored Welding (FCAW-G) process in the 4G (overhead) position by ABF welding personnel Rory Hogan (ID 3186). QC Inspector Tony Sherwood was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-3040A-4. The QAI observed that the welding parameters obtained by Mr. Sherwood appeared to be in general compliance with the contract documents and were as follows: 235 amps, 24.5 volts and a travel speed measured as 195mm per minute. Welding was in process for the remainder of this shift.

- 2). OBG Field Splice 1W/2W Weld ID: F Face A

The QAI periodically observed SE QC Inspector Steve McConnel performing Ultrasonic Testing (UT) from the

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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A Face of OBG Field Splice 1W/2W Weld ID: F. See photo below. Mr. McConnel utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the CJP. The QC technician performed the shear wave testing utilizing a .63 x .75 rectangular transducer to test for weld soundness. The UT examination was completed during this shift. At the conclusion of the QC testing the QAI observed that the QC technician noted two (2) rejectable flaws which were marked on the A face of the groove weld. The QAI spoke with Mr. McConnel who stated that there are a total of four rejectable indications found from face A and face B.

### 3). OBG Field Splice 2W/3W Weld ID: D1 & D2, Face B

The QAI periodically observed AB/F personnel performing plasma cutting to remove the backing bar and grinding to prepare the outside groove for back welding. The work at this location was not completed during this shift.

### 4). OBG Field Splice 2W/3W Weld ID: B Face A

The QAI periodically observed the in process welding of OBG Field Splice 2W/3W weld ID: B, Face A per the Flux Cored Welding (FCAW-G) process in the 3G (vertical) position by ABF welding personnel Xiao Jian Wan (ID 9677). QC Inspector Tom Pasqualone was present to monitor the progress and verify that the joint fit-up, welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-3040B-3. The QAI also periodically observed the QC inspector monitoring the preheat and interpass temperature to assure the Special Provisions requirement of the minimum preheat temperature being maintained continuously from beginning to three hours after the completion of the entire weld, was adhered to. The welding at this location was completed during this shift. The QAI observed that the welding parameters and the final weld appeared to be in general compliance with the contract documents. The weld was not ground flush during this shift.

### 5). OBG Field Splice 3E/4E Weld ID: D1 & D2 Face B

The QAI periodically observed AB/F approved welder Fred Kaddu (2188) performing repair welding of multiple UT repairs on the B face of OBG Field Splice 3E/4E Weld ID: D1 & D2. The repair welding was per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. See photo below. QC Inspector Tony Sherwood was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001-repair. Welding at this location was in process for the remainder of this shift and appeared to be in general compliance with contract documents.

### 6). OBG Field Splice 3W/4W Weld ID: C1 & C2 Face B

The QAI periodically observed SE QC Inspector Jesse Cayabyab performing Ultrasonic Testing (UT) from the B Face of OBG Field Splice 3W/4W Weld ID: C1 & C2. Mr. Cayabyab utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the CJP. The QC technician performed the shear wave testing utilizing a .63 x .75 rectangular transducer to test for weld soundness. The UT examination was completed during this shift. At the conclusion of the QC testing the QAI observed that the QC technician noted two (2) rejectable flaws which were marked on the B face of the groove weld. QAI spoke with Mr. Cayabyab who stated that there are a total of four rejectable indications found from face A and face B. Mr. Cayabyab also stated that scanning from Face A was not complete.

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## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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### Summary of Conversations:

As noted in the body of this report and below:

In a conversation with QC Inspector Bonafacio Daquinag at approximately 14:00 hours, Mr Daquinag stated to the QAI that AB/F was not going to begin welding of the full length tack welds until engineering approval was received to weld the areas with greater than a 2mm gap between the steel backing and the bevel face. Mr. Daquinag stated that on previous OBG Splice weld deck plate fit-ups, the welding of the tack welds would proceed in areas where backing bar gaps were not greater than 2mm and then once the engineerig approval was received, the full length tack welding would proceed.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammed Fatemi (916) 813 3677, who represents the Office of Structural Materials for your project.

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**Inspected By:** Madison,Bert

Quality Assurance Inspector

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**Reviewed By:** Levell,Bill

QA Reviewer

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